21

# UNITED STATES PATENT AND TRADEMARK OFFICE

**UNITED STATES DEPARTMENT OF COMMERCE**
**United States Patent and Trademark Office**
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/684,067 | 10/09/2003 | Donald O. Tanguay JR. | 200315116-1 | 3065 |

22879 7590 02/10/2006

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

| EXAMINER | |
|---|---|
| NGUYEN, PHU K | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2673 | |

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | | | |
|---|---|---|---|
| ***Office Action Summary*** | **Application No.**<br>10/684,067 | **Applicant(s)**<br>TANGUAY ET AL. | |
| | **Examiner**<br>Phu K. Nguyen | **Art Unit**<br>2673 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *17 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-135* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

PHU K. NGUYEN
PRIMARY EXAMINER
GROUP 2300

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-35 are rejected under 35 U.S.C. 102(e) as being anticipated by RUBBERT et al. (6,632,089).

As per claim 1, Rubbert teaches the claimed "method for producing a model of an object", comprising: "receiving at least one image of said object in a computing device" (Rubbert, column 9, lines 51-60; the scanning of a patient's teeth forming the teeth model 18); "processing one or more of said at least one image to produce a model of said object" (Rubbert, forming model of said object - an virtual orthodontic model of brackets/archwire for the patient - based on teeth's model 18; column 10, lines 1-17); "generating feedback information corresponding to said model of said object" (Rubbert, forming the **real** (emphasize added) orthodontic model of the brackets/archwire which provides "a feed back" information of the virtual orthodontic model); and "imparting said feedback information to a user of said computing device concurrently with said processing such that a determination is enabled to be made whether said model of said object is of a desired quality while said computing device is disposed to receive a further image of said object" (Rubbert, forming the real orthodontic model of the brackets/archwire and send it back to the orthodontist as the feedback information of the virtual model for judging the product's quality and a possible further scan of the dentition when needed; column 28, lines 27-32).

RESPONSE TO APPLICANT'S ARGUMENT:

Applicant's arguments filed on November 17, 2005 have been fully considered but they are not deemed to be persuasive.

Applicant argues that the cited reference does not teach "generating feedback information corresponding to said model of said object"; and "imparting said feedback information to a user of said computing device concurrently with said processing such that a determination is enabled to be made whether said model of said object is of a desired quality while said computing device is disposed to receive a further image of said object" which is not correct.

Rubbert's equivalence to the claimed model of said object is the virtual orthodontic model of brackets/archwire for the patient which is used to produce a real orthodontic model of brackets/archwire for the patient in the appliance service center 26. The real model gives a physical representation of the virtual model; therefore, contains the feedback information of the virtual model and shows the step of "generating feedback information corresponding to said model of said object".

Rubbert's sending the real/physical model to the orthodontist to install on the patient and therefore, allowing him to judge the quality of the virtual model based on the installation of real model on patient (or "imparting said feedback information to a user of said computing device concurrently with said processing such that a determination is enabled to be made whether said model of said object is of a desired quality"). Furthermore, Rubbert's rescanning the patient's dentition (column 28, lines 27-32) shows the claimed step of "while said computing device is disposed to receive a further image of said object").

Accordingly, the claimed invention as represented in the claims does not represent a patentable distinction over the art of record.

Claim 2 adds into claim 1 "receiving an additional image if said determination based on said feedback information is to accomplish said receiving" (Rubbert, column 2, lines 48-64, column 29, lines 62-67).

Claim 3 adds into claim 2 "said feedback information directs the acquisition of said additional image necessary to produce said model of said object wherein said model is of said desired quality" (Rubbert, column 28, lines 27-32 and column 29, lines 62-67).

Claim 4 adds into claim 1 "said imparting said feedback information is accomplished aurally" (Rubbert, patient's descriptions or feedbacks his/her feeling about wearing the newly designed bracket; column 8, lines 20-45; column 9, lines 6-16; column 26, lines 48-25).

Claim 5 adds into claim 1 “said imparting said feedback information is accomplished tactilely” (Rubbert, orthodontist installs the newly designed brackets; column 8, lines 20-45; column 9, lines 6-16; column 26, lines 48-25).

Claim 6 adds into claim 1 “said imparting said feedback information is accomplished visually” (Rubbert, orthodontist views the newly designed brackets; column 8, lines 20-45; column 9, lines 6-16).

Claim 7 adds into claim 6 “said feedback information is a graphic representation of said model of said object, wherein said graphic representation enables a user to determine whether acquisition of an additional image of said object is necessary to produce said model of said object wherein said model is of said desired quality” (Rubbert, column 2, lines 48-64; column 28, lines 27-32, lines 54-64).

Claim 8 adds into claim 1 “said feedback information is an image of a planar model” (Rubberts, column 21, lines 40-46).

Claim 9 adds into claim 1 “said feedback information is an image of a three-dimensional model” (Rubberts, column 14, lines 50-54).

Claim 10 adds into claim 1 "said receiving at least one image is accomplished in a handheld device" (Rubbert, the remotely located orthodontist's general-purpose computer can be just a laptop and handheld device; column 9, lines 34-40).

Claim 11 adds into claim 10 "wherein said handheld device comprises a portable computing device" (Rubbert, the remotely located orthodontist's general-purpose computer can be just a laptop and handheld device; column 9, lines 34-40).

Claim 12 adds into claim 11 "wherein said processing is accomplished in said handheld device" (Rubbert, the remotely located orthodontist's general-purpose computer can be just a laptop and handheld device; column 9, lines 34-40).

Claim 13 adds into claim 1 "wherein said processing is accomplished in a remotely located computer" (Rubbert, column 9, line 1).

Claim 14 adds into claim 1 "wherein said processing is accomplished in real time" (Rubbert, column 9, lines 47-60).

Claim 15 adds into claim 1 "wherein said determination whether said model is of a desired quality is made by a user" (Rubbert, column 9, lines 21-22; column 28, lines

27-32)

Claim 16 adds into claim 1 "said determination whether said model is of a desired quality is made by a device-driven process" (Rubbert, column 9, lines 14-16).

Claim 17 adds into claim 1 "wherein said desired quality is quantifiably selectable by a user" (Rubbert, column 26, lines 55-61).

Claims 18-33 claim a feedback generator with means to perform the steps based on the method of claims 1-17; therefore, they are rejected under the same reason.

As per claim 34, Rubbert teaches the claimed "computer system having a processor coupled to a memory wherein said memory comprises instructions that, when executed, implement a method for producing a model of an object" (Rubbert, column 9, lines 33-60), comprising: "receiving at least one image of said object in a computing device" (Rubbert, column 9, lines 55-60; the model 18); "processing one or more of said at least one image to produce a model of said object" (Rubbert, column 10, lines 1-17); "generating feedback information corresponding to said model of said object" (Rubbert, forming the **real** (emphasize added) orthodontic model of the brackets/archwire which provides "a feed back" information of the virtual orthodontic model); and "imparting said feedback information to a user of said computing device concurrently with said processing such that a determination is enabled to be made whether said model of said object is of a desired quality while said computing device is disposed to receive a further image of said object" (Rubbert, forming the real orthodontic model of the brackets/archwire and send it back to the orthodontist as the feedback information of the virtual model for judging the product's quality and a possible further scan of the dentition when needed; column 28, lines 27-32).

As per claim 35, Rubbert teaches the claimed "computer readable medium having instructions imprinted thereon that, when executed, implement a method for producing a model of an object" (Rubbert, software loaded in the system; column 9, lines 33-60), comprising: "receiving at least one image of said object in a computing device" (Rubbert, column 9, lines 55-60; the model 18); "processing one or more of said at least one image to produce a model of said object" (Rubbert, column 10, lines 1-17); "generating feedback information corresponding to said model of said object" (Rubbert, forming the **real** (emphasize added) orthodontic model of the brackets/archwire which provides "a feed back" information of the virtual orthodontic model); and "imparting said feedback information to a user of said computing device concurrently with said processing such that a determination is enabled to be made whether said model of said object is of a desired quality while said computing device is disposed to receive a further image of said object" (Rubbert, forming the real orthodontic model of the brackets/archwire and send it back to the orthodontist as the feedback information of the virtual model for judging the product's quality and a possible further scan of the dentition when needed; column 28, lines 27-32).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu K. Nguyen whose telephone number is (571) 272 7645. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, bipin Shalwala can be reached on (571) 272 7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu K. Nguyen
January 26, 2006

Phu Nguyen

**PHU K. NGUYEN**
**PRIMARY EXAMINER**
**GROUP 2300**